6451

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

December 9, 2015

Rusty Bastian
Redmond Minerals, Inc.
325 West 100 South
Central Valley, Utah 84754

Subject: Review of Amended Notice of Intention to Commence Large Mining Operations, Redmond Minerals Inc., Redmond Minerals Mine, M/039/0002, Sanpete County, Utah

Dear Mr. Bastian:

The Division of Oil, Gas and Mining has reviewed the referenced re-written Notice of Intention to Commence Large Mining Operations (Notice) which was received February 2, 2015. The attached comments will need to be addressed the Division issues final approval of the amended Notice. Considering past occurrences of mine workings subsidence (which subsidence is reportedly associated with alluvial groundwater flow), please carefully address the comments relating to subsidence and groundwater impacts.

Please submit your response to this review by March 4, 2015, for all comments not directly related to the maps. The comments are divided into two sections: Text Comments and Map Comments. Considering the incomplete but valuable maps that have been provided, the Division has decided that final map changes will not be required until either:

1) You need to amend the Notice to incorporate plans that are not already included in the Notice,

OR

2) The next periodic plan and reclamation cost estimate review (2019).

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages for the original Notice using redline and strikeout text. After the Notice is determined technically complete, the Division will request two clean copies. Upon final approval, both copies will be stamped approved, and one will be returned for your records.

1594 West North Temple, Suite 1210, Salt Lake City, UT 84116
PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR
OIL, GAS & MINING

The Division will suspend further review of the Notice until receiving your response to this letter. If you have any questions in this regard please contact Peter Brinton at 801-538-5258 or me at 801-538-5261. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: pnb: eb
Attachment: Review
cc: Mike Forbush, Redmond Minerals Inc.; mikef@redmondminerals.com
Jason Haddock, Redmond Minerals Inc., 475 West 910 South, Heber City, Utah 84032
Scott Olsen, Sanpete County; solsen@sanpetecounty-ut.gov
Mike George, DEQ-DWQ (mmgeorge@utah.gov)
Dan Hall, DEQ-DWQ (dhall@utah.gov)
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SECOND REVIEW OF NOTICE OF INTENTION
TO COMMENCE LARGE MINING OPERATIONS
Redmond Minerals Inc.
Redmond Minerals Mine
M/039/0002

December 8, 2015

TEXT COMMENTS
To be addressed by March 4, 2016.

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	General	The submittal should be formatted to easily incorporate additional revisions and amendments.		
2	General	The Division may have additional comments based on the responses to this review.		
3		The Division recommends a Table of Contents.	lah	

R647-4-104 – Operator Information and Surface and Mineral Ownership

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
4	Page 2	Identify at least one of the registered principals identified on the business registration with the State of Utah to whom correspondence should be directed and who has signatory authority for the company.	pnb	

R647-4-106 - Operation Plan

106.2 - Type of operations - mining method, onsite processing, deleterious or acid-forming materials

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
5	Page 4, 106.2	Indicate whether clay is still processed on-site, and identify plans for the old clay mill structures.	pnb	
6 (Previous Comment 52)	Page 7	Identify the nature of the trash disposed in each of the pits. Depending on the nature of trash, you may need approval from the Department of Environmental Quality (DEQ) for continued disposal. Contact DEQ for more information. Second Review: The reference to trash disposal in pits has been removed. Any ongoing trash disposal should be discussed here and may need a permit with DEQ.	pnb	

106.3 - Estimated acreages disturbed, reclaimed, annually/sequentially

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
7	Page 9, para 1	Report the total maximum area (in acres) that is planned to be disturbed.	pnb	

106.4 - Nature of materials mined or processed (including waste materials), and estimated annual tonnages

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
8	Page 11, para 1	Identify the locations for burial of waste salt (such as superfine salt).	pnb	

106.5 - Existing soil types, location, amount

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
9 (Previous Comment 62)	Page 11, para 2	Provide an estimated amount of stockpiled material that is suitable for soil material/growth medium. Distinguish between topsoil and overburden. Second Review: Not yet addressed.	pnb	
10	Page 11	The soils data provided indicates no significant problems with soil suitability for reclamation, but it does not include data specifically to soil fertility. Since the mine currently exists (as opposed to a proposed operation), this data is not critical until reclamation. Please include in the Notice a commitment to provide this data prior to using the soil for reclamation. This data would provide the basis for determination of the need for (if any) and the types of fertilizer/soil amendments that may be needed. Data needed includes percent organic matter, electrical conductivity, total nitrogen, nitrate nitrogen, phosphorus (as P_2O_5), and potassium (as K_2O).	lk	

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
11 (Previous Comment 65)	Page 11, para 3	Provide an estimated range of the in-situ topsoil depths in areas of future mining, and an estimate of the minimum volume of in-situ, suitable soil material to be removed. Second Review: Not addressed.	pnb	

106.8 - Depth to groundwater, extent of overburden, geologic setting

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
12	Page 12, para 2	According to the Division of Water Rights website data, the water depth and well completion information identified as belonging to #62-2334 actually belongs to another well associated with water right #63-368, which is much closer to the mine. Correct the discussion, and include information on the water levels from both wells.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
13 (Previous Comment 68)	Page 12	Discuss additional groundwater depth information available from the wells identified on the Off-Site Features map (HD-03). Refer to this map in the text. Is the well water alluvial or bedrock groundwater? This information is pertinent to the impacts section. Second Review: Not completely addressed. Identify well waters as alluvial or bedrock. The new text refers to wells used for watering livestock to the west of the mine, but the described wells are located east of the mine. Correct.	pnb	
14 (Previous Comment 69)	Page 12	Given the inflow of the reported alluvial groundwater into workings near the salt mill, discuss alluvial groundwater in the area of the mine based on studies done to date, including its origin, general flow direction, estimated locations (flowpaths), depth, and nature (relative quality). As meaningful, reference the Whetstone report. Second Review: Not addressed.	pnb	
15	Page 12, Omission	Discuss the depth to groundwater and groundwater elevation in the area of mining, and the presence of water in underground workings.	pnb	
16	Page 12 Last para	The operator has written "5 to 50 meters." The rest of the Notice is in English units. Please convert the statement to English units.	lah	
17	Page 13 para 2	On Sheet GE-01 and page 13 the description of the Arapien Shale (T(Ja)) should be consistent. Much of what was written on the sheet probably would be better placed in the text.	lah	
18	Page 13	Include a description of the structural geology setting	lah	

106.9 - Location & size of ore & waste stockpiles, tailings, water storage/treatment ponds

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
19 (Previous Comment 72)	Page 13, Omission	Discuss the retention pond located south of the facilities, which is understood to be used to retain salty water from the French drain. Water in the pond appeared to be high in nutrients, based on the algae growth. Discuss possible sources (including off-site irrigation) and quality of the water. Discussion should be consistent with maps. Water from this pond may not be discharged without a UPDES permit. Second Review: Not addressed.	pnb	
20 (Previous Comment 73)	Page 13, para 6	…The discussion of scrap metal and trash pits should remain, but the rest of the paragraph should be removed… Second Review: A brief discussion of scrap metal and trash pits should remain.	pnb	
21 (Previous Comment 71)	Page 13, para 9	…Discuss in the text the sources of water both retained in ponds and diverted. Report the general direction of surface water flow in this area. Identify water storage pond sizes (depths and storage capacities). Second Review: Not completely addressed. Both sub-surface and surface water sources should be identified, specifically water from the French drain and runoff.	pnb	

R647-4-108 - Hole Plugging Requirements

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
22	Page 18, para 2	Future exploration drill holes will need to be plugged in accordance with the requirements of R647-4-108. Please modify the text to be consistent with these requirements.	pnb	

R647-4-109 - Impact Assessment

109.1 - Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
23 (Previous Comment 81)	Page 14, para 3	It appears that the quality of the alluvial groundwater is being impacted by mining activities, at least in the area of the Bosshardt mine (near the salt processing facilities). Based on the Whetstone report, alluvial groundwater removed from the French drain is 3% NaCl (brackish), which is similar in salinity to ocean water (~3.5% salinity). Groundwater flowing through the French drain, and ponded mine water (brine) flowing across the diapir salt to the alluvial or sedimentary deposits east of the mine (as concluded in the Whetstone report) is likely to be significantly more saline. (Water in underground workings is reported to be 25% NaCl). Discuss the following: - Groundwater impacts associated with increased salinity. - The impact potential on down-gradient water resources, considering the available information on groundwater. Evaluate information from water wells. - The likelihood of future (and any past) impacts from salty water on adjacent farm lands during mining and after mine reclamation. - Any past, ongoing, and proposed mitigation efforts to avoid or minimize impacts, such as alluvial water diversion and the pumping of brackish water from the French drain (include current and future flow rates and frequencies). - Reclamation activities related to mitigating long-term impacts. What actions are planned so that any need for pumping after reclamation is avoided? <u>Second Review:</u> Not addressed. Provide more specific discussion of projected impacts based on technical reports. Identify the approximate rate of pumping from the sub-surface sumps, and whether it is continuous.	pnb	
24	Page 14, para 3	0.2% is equivalent to 2,000ppm (mg/L), which can only be considered relatively "fresh". Change the terminology accordingly. Sample results in terms of TDS would probably be more meaningful.	pnb	
25	Page 14	It is likely in the best interest of the operator to indicate the apparent up-gradient agricultural source of at least some of the alluvial groundwater.	pnb	
26	Page 14	Discuss water rights for pumping and any projected impacts resulting from the extraction of water for this operation. Identify whether water used from the underground workings requires a water right.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
27 (Previous Comment 82)	Page 14	Discuss any impacts and mitigation associated with what appears to be surface runoff that leaves the property to the east from the facilities areas. Second Review: Not addressed. Briefly indicate that some runoff is contained in the interrupted ditch running along the county's Salt Mine Road as well as in most pits until it infiltrates and/or evaporates.	pnb	
28 (Previous Comment 83)	Attachments	Provide and reference the Whetstone Associates report as an attachment to the Notice. Please provide the Division with other information or studies, such as the Agapito & Associates report, and others that may have been performed as a result of the recommendations by Whetstone Associates. Second Review: Not provided as appendices. Provide the report, and summarize the findings. Until this information is provided, the Division will not be able to complete its evaluation of potential impacts to water systems.	pnb	
29 (Previous Comment 84)	Page 14, Omission	Discuss any impacts of pits, dumps, and water management structures to surface water drainage. Reference reclamation and regrading measures used to mitigate any impacts. Second Review: Not addressed. Consistent with 110.2, indicate whether the Bosshardt mine and the south pit will be completely backfilled, and discuss implications of backfilling on water quality in the area, as well as in the north salt pit.	pnb	

109.4 - Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
30	Page 15 para 2&3	Without structural geologic information, it is difficult to comment on the slope stability (specifically subsidence) issues related to the salt mining. More data is needed and visual examination is not enough for rule 109.5 impacts on slope stability (also noted below). The operator needs to commit in the Notice to maintain an adequate factor of safety and show the impact to reclamation.	lah	
31 (Previous Comment 89)	Page 15-16 Page 15, para 3	Discuss the incidences of subsidence and identify mitigation measures to reduce the likelihood of future subsidence. Is pumping brine water for road salt processing from any sumps in the underground salt mine expected to cause subsidence? What final reclamation measures are planned to prevent post-mining impacts of subsidence? Will any permanent water diversion be necessary to prevent alluvial water from entering underground workings after dry stream channel restoration? Reference the Whetstone and other reports as needed. Second Review: Not addressed. Include and summarize findings of the hydrogeology and the rock mechanics reports, including elements of underground mine design, which are reported to prevent significant subsidence in the future.	pnb	
32 (Previous Comment 90)	Page 16, para 2	Refer to the reclamation plan for closure of the portals to protect public safety. Second Review: Not addressed.	pnb	
33	Page 16, Omission	Discuss required safety berms around pit highwalls, per R647-4-111.1.15. Second Review: Not addressed.	pnb	

109.5 - Actions to mitigate any impacts

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
34		As noted above – operator needs to demonstrate that a long term factor of safety is adequate.	lah	

R647-4-110 - Reclamation Plan

110.2 - Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
35 (Previous Comment 95)	Page 17, para 1	Identify whether the pre-1975 salt mine highwalls will be reclaimed. If the approved variance from 1999 is being retained, refer to it here. Check maps for consistency. Second Review: Not addressed. The text indicates that pre-law highwalls will not be reclaimed, while the reclamation treatments map indicates that salt mine highwalls will be regraded. Update the text (both 110 and 112) and/or map to be consistent with the intended plan. Discuss the backfilling of the Bosshardt mine using waste salt.	pnb	
36	Page 17, Omission	According to aerial photographs, the active south salt mine pits and highwalls are post-law. Identify the reclamation plan for the south mine pit.	pnb	
37	Page 17, para 2	Change the text to indicate that reclamation will meet the reclamation standards in R647-4-111 (not standards set by UDOGM), except for areas where variances apply.	pnb	
38 (Previous Comment 99)	Page 17, para 3	Discuss any plans to restore general drainage paths that have been cut off. Second Review: Not addressed. The statement that the mine will not cut off any natural drainage channels is incorrect. Remove or qualify the statement.	pnb	
39	Page 18, para 1	Identify in more detail the plans to restrict access to underground mines after mining. Metal gates may be appropriate if the operator arranges for perpetual maintenance. Otherwise, a permanent closure will be needed, for which engineered plans would be appropriate.	pnb	
40	Page 18, paras 4, 7	On page 17, the NOI says clay pits are to be reduced to angles of 45 degrees or less, but the plan for the salt pits is unclear. In these page 18 paragraphs, the slopes of both clay and salt "mining areas" are to be 3H:1V. Correct the text to represent the intended plan.	pnb	
41 (Previous Comment 100)	Page 18, para 2	…Discuss plans to reclaim underground ventilation shafts. Second Review: Not addressed. More detailed plans for securely abandoning vent shafts are needed, such as engineered drawings.	pnb	
42 (Previous Comment 101)	Page 18, Omission	Discuss reclamation plans for trash pits, consistent with the Reclamation Treatments map. Second Review: Not addressed. Identify how trash and debris will be cleaned up.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
43 (Previous Comment 102)	Page 18, Omission	Discuss reclamation plans for the French drain…and associated storage tanks. What reclamation actions will be taken to mitigate the post-mining impact to alluvial groundwater? Plans should be consistent with the discussion required in 109. Second Review: Not fully addressed. Identify whether decommissioning the French drain will result in activated subsidence.	pnb	
44	Page 18, Omission	Identify reclamation plans for apparent existing subsidence features near the French drain, or explain their origin if not subsidence-related.	pnb	

110.3 - Facilities to be left for post mining use (buildings, utilities, roads, pads, ponds, pits, equipment, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
45	Page 18, para 11	Indicate that structures other than those with approval to remain will be removed. Buildings 7-15 and Buildings 16, 17, 22, and 23 need to be demolished and/or removed, consistent with 1999 Notice approval documents. It is acceptable to state in the Notice that possible post-mining land uses will be evaluated at the end of the mine life, but the Notice and reclamation cost calculations should plan for demolition and removal. Correct the text accordingly.	pnb	

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
46	Page 18, last para	Identify how deleterious materials, such as fuels and any deleterious chemical additives to salt, will be disposed or removed.	pnb	

110.5 - Revegetation planting program

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
47	Attachment 2, Page 3	The proposed seed mix includes only one forb (herbaceous species), which is a biannual and would not be expected to persist for more than a few years. The Division recommends that globemallow (at 0.2 lbs/ac) and Lewis flax (at 1.0 lbs/ac) be added to the mix.	lk	

R647-4-112 - Variance (List all variances requested and make a finding if approving.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
48	Page 19 last para thru page 20	More information is needed before a variance can be issued. Specifically a geotechnical/geomechanical report signed by the engineer of record that addresses the Factor of Safety of both the over steepened highwalls for the portal entrances and the clay pits. The report should address the ongoing review of the slope stability parameters if either the phreatic surface changes or if there are unforeseen changes to the geology or structural geology.	lah	
49	Pages 19 - 20	Since varying plans for salt mine highwalls are discussed or shown, correct either this section and/or the reclamation plan section and/or the reclamation treatments map to consistently show the intended reclamation plan for salt mine highwalls.	pnb	
50	Page 19	(Variance from R647-4-111, Item 13 – Revegetation) – Two variances have been requested in this section, and it does not appear that either variance is needed. For the first, more information is needed for clarification. Is the variance request for areas (pre-law disturbance) that have not been re-affected or continued to be used by current mining operations? Or is it for areas that were initially disturbed pre-law and are currently being used by operations? In the first case, a variance is not needed. There is no regulatory responsibility to reclaim areas that were disturbed pre-law if there has been no continued activity on these areas. In the second case, operators are expected to use the best available materials (from on site) and to revegetate these areas. Successful revegetation is evaluated based on what would be expected using all practical means to establish vegetation. This would include evaluation of the soil materials available, species selection (a separate seed mix may be advisable for these areas), timing of seeding operations, application of fertilizers and/or soil amendments, etc. The rules allow the Division to determine that revegetation has been completed within practical limits, so as long as good revegetation practices are employed, the Division can make this determination even if the normal cover requirements are not met. The second variance is for not achieving the 30% cover target on the clay areas. As noted in your discussion, the original vegetation on these areas was only 5% cover. Thus the Division would evaluate success for these areas against the 5% original cover. Therefore, this variance is not needed.	lk & pbb	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
51	Total Reclamation Cost Summary, Omission	Please provide the Division's reclamation cost calculation summary spreadsheet (total.xls) to report the total 2014 reclamation cost, escalated to 2019 dollars, which is used to determine the bond amount.	pnb	
52 (Previous Comment 111)	Omission	Other cost information will need to be added, such as …pipe closure/removal, vent shaft plugging, and the construction of the raised berm for drainage containment. Second Review: Not addressed. Add these costs as line items to the calculation.	pnb	
53	Omission	Explain the assumption behind the application of major regrading volumes using a dozer and excavator at a ratio of 70/30, respectively.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
54	D9 Dozer Production Sheets	Define Major Regrading and Minor Regrading, and the source and method used to determine regrade volumes.	pnb	
55	Earthwork Costs, Omission	Costs to regrade major volumes appear incomplete. Identify additional major volumes shown on the map, but not included in the table. Major regrading volumes are not specifically identified for OW-01, OW-02, OW-03, OW-04, OW-05, OW-10, OW-16, OW-17, OW-17A, and OW-18. Identify MC-a and MC-b in the table from the Salt Processing area. Major regrading for Area 12 (A12-a) is understated, and removal of the berm alone will be more than 136 cubic yards.	pnb	
56	Earthwork Costs, Duplicate	It appears that Area 10 or perhaps Area 14 regrading costs have been duplicated on the unnumbered, unnamed cost calculation page with regrading for Areas 11-13. Remove the Area 10 line items from this page and the total direct costs.	pnb	
57	Demolition Costs, Omission	Consistent with 1999 Notice approval documents, Buildings 7-15 and Buildings 16, 17, 22, and 23 need to be demolished and/or removed. Add demolition costs for these buildings, and update the total reclamation cost estimate amount.	pnb	

MAP COMMENTS

To be addressed either by 2019 or during the next amendment, whichever comes first.

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
58	All sheets	Please leave a half inch border around all sheets, for scanning purposes as was done for SS-01and RT-01.	lah	
59	General	Update all applicable maps to be consistent with future plans, such as the proposed office building at the clay mill, the solar panel areas and associated infrastructure on past disturbances, both new and regraded roads (e.g. new haul road north of South Salt Mine), and both recent and ongoing reclamation and disturbance (e.g. Bosshardt mine backfill grading).	pnb	

105.2 - Surface facilities map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
60 (Previous comment 9)	Site Facilities Map	Please provide a map with an aerial photo background, as was submitted previously. Second Review: Not addressed. The most recent aerial photograph will be adequate, as long as the date of the flyover is clear.	pnb	
61 (Previous comment 11)	Site Facilities Map, etc.	Identify the current overburden piles with topsoil storage (per 106.5 and 106.6), including topsoil storage piles associated with future mining. Refer to comments for sections 106.5 & 106.6. If no topsoil has been separately stockpiled to this point, note the map accordingly. Second Review: Not addressed. Identify future soil stockpiles associated with future surface mining areas.	pnb	
62 (Previous comment 13)	Site Facilities Map, etc.	Unless they no longer exist, identify additional road segments on the map, as per Comment 14 in the previous review, and revise the reclamation treatments map and bond as needed. Examples observed in aerial photographs include: 1) roads in the area of Trash Pit #4, 2) roads near the retention ponds north of the clay mill, 3) a road north of the unnamed open pit salt mine near the subsidence areas, and 4) roads between the future clay mine and OW-12 northeast from the access road. Other examples may exist. Any onsite, pre-law roads not used for mining activities should be identified as such. Second Review: Not addressed.	pnb	
63 (Previous comment 17)	Site Facilities Map, etc	Aerial photos suggest that the three clay pits at the far northwest end of the disturbance are really one clay pit. Correct as needed. Second Review: Show the regrading of High Yield Clay Mine and other regraded areas.	pnb	
64	Site Facilities Map, etc	Identify the Tamarack Pit as current mining (and any other pits that were identified as future mining are currently being mined).	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
65 (Previous comment 23)	Site Facilities Map, etc	Identify reclaimed areas on this map. Second Review: Not addressed.	pnb	
66 (Previous comment 27)	Site Facilities Detail Map & Most Other Maps	The two tables on the Site Facilities Detail Map incorrectly identify some facilities (Buildings 7-15) as Pre-1999, and at least infer that Buildings 7-15 and Buildings 16, 17, 22, and 23 do not need reclamation. Clarify the tables, legend, and facilities on the map to be consistent with an updated Reclamation Treatments Map and the 1999 approval requiring that these buildings be reclaimed.	pnb	
67 (Previous comment 28)	Site Facilities Detail Map	Label storage tanks for brine, fuel, and other potentially deleterious substances. Second Review: Not addressed.	pnb	
68 (Previous comment 27)	Site Facilities Detail Map	Identify the building just north of the actual north mill building below the hill, and the scale. Second Review: Not addressed. See the aerial photographs.	pnb	
69	Site Facilities Detail Map	The 2014 aerial photographs show the equipment storage area as being larger than is drawn on the map. Correct the map as needed.	pnb	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
70 (Previous comment 29)	Page 4	Identify by name and number the other maps included with this Notice. Second Review: Not addressed. Usually this is done in a table of contents.	pnb	
71 (Previous comment 32)	Hydro Map, etc	Identify what has been described as a spring in the reclamation area above the salt water and runoff retention pond. Second Review: Not addressed.	pnb	
72 (Previous comment 33)	Hydro Map, etc	Per comment 23 of the previous review, identify … the retention pond in the drainage northwest of the unnamed northwest clay pit, …the pond northeast of the mill below the two drainages near the property line, and any other ponds not already shown. Second Review: Not fully addressed. Deleted portions were addressed.	pnb	
73 (Previous comment 35)	Hydro Map, etc	Per comment 27 of the previous review, identify …less visible drainage paths (such as a path to the northern retention ponds by the property boundary)… Second Review: Not completely addressed. Identify the defined flow path visible on aerial photos that enters the southern regraded area from the southwest.	pnb	
74	Hydro Map	Add the salt structure elevation lines to the legend, with any other that might be cut off.	pnb	
75 (Previous comment 36)	Hydro Detail Map	Add a legend. Second Review: Not addressed. Show salt structure elevation lines in the legend.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
76	Reclamation Treatment Map	Major regrading volumes are not specifically identified for OW-01, OW-02, OW-03, OW-04, OW-05, OW-10, OW-16, OW-17, OW-17A, OW-18. Update the table. The calculations will also need to be updated accordingly. Identify MC-a and MC-b in the table from the Salt Processing area.	pnb	
77	Reclamation Treatment Map	The 1999 Notice approval documents identify only the following facilities as having post-mining land use and not requiring reclamation (demolition and removal): 1) the maintenance shop (Diesel Equipment Shop, #18), 2) office/warehouse facilities (Salt Warehouse / Office, #19), 3) clay mill (Clay Mill / Warehouse Building, #20), 4) the salt mill (Mill Enclosure, #21), including secondary crushers, 5) the vehicles storage (pre-1999 parking lot, not numbered), 6) salt bulk storage (pre-1999, not numbered), 7) truck scales (pre-1999, not numbered), and 8) main roads to facilities with a post-mining land use. This Reclamation Treatments Map does not indicate that the other Buildings 7-17, 22, and 23 need reclamation. Correct the map and legend, consistent with the 1999 approval.	pnb	
78 (Previous Comment 37)	Reclamation Treatments Map	Referencing the 1999 Treatments map, OW-03 (north of the north salt mine) appears to be post-law dumps or waste salt, and OW-10 and OW-11 appear to be pre-law dumps. Unless this is a mistake, correct the new map to show OW-3 as requiring reclamation. Second Review: Not addressed. OW-03 is prelaw.	pnb	
79 (Previous Comment 44)	Reclamation Treatments Map	Please address comment 40 from the previous review: "…The Notice text should discuss berms for drainage control (including reclamation), and maps should be consistent with the text. (105.3.17)" Second Review: Not completely addressed. Show important reclamation berms.	pnb	
80 (Previous Comment 45)	Revegetation Treatment Map	In the map legend, explain each of the revegetation treatment types (topsoil amount, seeding, type of surface roughening, addition of composted manure, flooding, clay/salt areas). Second Review: Not completely addressed. Indicate which treatment types are for salt, salt waste, clay, clay waste, etc.	pnb	
81 (Previous Comment 48)	Revegetation Treatment Map	In the legend, the "Previously Reclaimed" category should report … that you are waiting for vegetation to grow. Second Review: Partly addressed. Note that the Legend requires 6 inches of soil as well as composted manure placed to be placed on "Previously Reclaimed" areas. Under the current Notice, multiple regraded clay areas would need to be seeded, but not have soil placed on them. Correct the inconsistency. Indicate whether the areas have been seeded.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
82	Cross Sections	The cross-sections indicate that the pits previously granted variances will be backfilled and/or graded down to shallower slopes. However, page 17 (section 110.2) indicates that highwalls at the entrances of north and south will not be backfilled. The outdated plan identifies backfilling to reduce slopes of salt mines, except in the immediate area of the portals where a variance was approved. Please modify the text and maps for consistency.	pnb	
83	GE-01	As per 105.3.16, include structural geologic information on GE-01.	lah	
84	GE-01	Change title in legend from Soil Classification to Geologic Legend.	lah	
85	Omission	As per 105.3.16 and 105.3.18 include geologic cross sections; include both a parallel and a perpendicular cross section as needed.	lah	
86	HD-03	Show the retention pond south of the mill near the solar panels.	pnb	
87	HD	Identify areas any areas with workings less than 60 feet in depth below the surface, including pit bottoms. Reference the rock mechanics report for crown pillar stability.	pnb	
88	Omission	Include a note on CS-01, CS-02 and CS-03 that the locations of Section A thru Q for location of cross sections on plan view.	lah	
89	CS-01, CS-02, CS-03	Label regraded slope angles with max slope angle i.e. "2H:1V max" or add a note to each sheet that states "Regraded slope angle not to exceed 2H:1V."	lah	
90	Omission	Show the past and future locations of buried waste salt, since it is considered deleterious to plant growth.	pnb	

105.5 – Underground and Surface Mine Development Maps

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
91 (Previous Comment 50)	Underground	Show the Bosshard Mine underground workings, including in the area of the closed vent shaft. Indicate the elevations of the workings.	pnb	